Please replace the paragraph beginning at page 1, line 16, with the following rewritten paragraph:

A1 In fact the BEMF measurement is compared to a velocity command signal in order to sense deviation of the actual motor speed from the desired speed, and in response adjusts the drive applied to the motor to correct for the speed deviation.

Please replace the paragraph beginning at page 2, line 1, with the following rewritten paragraph:

A2 A first way of sensing the BEMF is to use the voltage across the power bridge, that is the driver of the VCM, and the current flowing in the motor to compute the BEMF generated by the motor (continuous mode).

Please replace the paragraph beginning at page 2, line 4, with the following rewritten paragraph:

The second approach considers that if the Voice Coil power bridge is put in a tristate condition and the time for a complete current decay in the motor is elapsed, no current is present in the VCM and then the only voltage read across the coil is the back electromotive force (discontinuous mode).

Please replace the paragraph beginning at page 2, line 10, with the following rewritten paragraph:

A3 In reality, the BEMF measured across a motor coil is not perfectly proportional to the motor rotational speed. Factors responsible for the imperfection are the motor resistance Rm, the sense resistor Rs and the elements (resistance and amplifiers) used in the measurement circuit.

Please replace the paragraph beginning at page 2, line 14, with the following rewritten paragraph:

The measured BEMF, then, can be viewed as the sum of these error components and an ideal BEMF to which the motor rotational speed is proportional.

Please replace the paragraph beginning at page 2, line 24, with the following rewritten paragraph:

A4

Known circuits are able to accurately measure the BEMF of a VCM but require a double calibration circuit to reduce said measurement error.

Please replace the paragraph beginning at page 2, line 26, with the following rewritten paragraph:

In view of the state of the art described, it is an object of the present invention to provide a circuit able to accurately measure the BEMF of a VCM with a single calibration circuit.

Please replace the paragraph beginning at page 3, line 20, with the following rewritten paragraph:

A5

Thanks to the present invention, it is possible to provide a circuit able to accurately measure the BEMF of a VCM which is more precise, require less circuits and therefore less space.

Please replace the paragraph beginning at page 4, line 2, with the following rewritten paragraph:

A6

Referring now to figure 1, a power bridge driver of the VCM is shown where a hard disk controller 10, by means of a digital to analog converter (not shown), supplies a signal to the power bridge driver for its operation. The signal is supplied to the resistance R1 which in turn is connected to a node 11. At the node 11, the inverting input of an error amplifier EA is connected, and the non inverting input is connected to a voltage reference or ground and the output is connected to a node 12. Between the node 11 and 12, connected in series are a capacitor Cc and a resistance Rc, which they with the error amplifier EA act as an integrator circuit. At the node 12, the input of the negative power driver 13 is also connected, the output of which is connected to the node Vcm. At the node 12, the input of the positive power driver 14 is connected, the output of which is connected to the node Vcp. A resistance Rs is connected between the node Vcm and a node Vsense. A VCM motor is connected between the node Vcp and the node Vsense. The VCM motor is represented in figure 1 by means of a resistance Rm,

an inductor Lm and a voltage generator E, which corresponds to the BEMF voltage. At the node Vcm, the inverting input of a sensing amplifier SA is also connected, the non inverting input of which is connected to the node Vsense. The output of the sensing amplifier SA is connected to a resistance R2, which in turn is connected to the node 11.

A6

Please replace the paragraph beginning at page 4, line 21, with the following rewritten paragraph:

The signal coming from the driver controller 10 is supplied to the error amplifier EA and it drives the power drivers 13 and 14. The sensing amplifier and the resistance R2 perform a negative feedback of the power bridge driver.

Please replace the paragraph beginning at page 5, line 24, with the following rewritten paragraph:

A7

Referring now to figure 2 where a BEMF detection circuit according to the prior art is shown, there is a VCM motor, a resistance Rs and the nodes Vcp, Vsense and Vcm as in figure 1, but the power bridge driver is not shown. The node Vcp is connected to a first resistance R which in turn is connected to a non inverting input of an operational amplifier 20 with the function of summing node. The node Vsense is connected to a second resistance R and to a first resistance Ra, in parallel with the second resistance R, which in turn are connected to an inverting input of the operational amplifier 20. Between the inverting input of the operational amplifier 20 and its output, a first resistance Rb is connected. The node Vcm is connected to a second resistance Ra which in turn is connected to the non inverting input of the operational amplifier 20. The non inverting input of the operational amplifier 20 is also connected to a second resistance Rb which in turn is connected to a prefixed bias voltage Vref. The output of the operational amplifier 20 produces the voltage VTACH which is supplied to the hard disk controller 10 by means of an analog to digital converter (not shown).

Please replace the paragraph beginning at page 6, line 25, with the following rewritten paragraph:

We refer now to figure 3 where an embodiment of a BEMF detection circuit according to the present invention is shown. As in figure 2, there is a VCM motor, a resistance Rs and the nodes Vcp, Vsense and Vcm as in figure 1 but the power bridge driver is not shown. The node Vcp is connected to a first resistance R which in turn is connected to a non inverting input of an operational amplifier 30 with the function of a summing node. At the non inverting input of the operational amplifier 30 a first resistance Ra and first resistance Rb are also connected, which in turn are both connected to a prefixed bias voltage Vref. The node Vcm is connected to a second resistance R which in turn is connected to the inverting input of the operational amplifier 30. The node Vsense is connected to a non inverting input of an operational amplifier 31 having gain G, and the node Vcm is connected to an inverting input of the operational amplifier 31. The output of the operational amplifier 31 is connected to a terminal of a calibration element Rt that in this case corresponds to the calibration element Rtot. The other terminal of Rt is connected to a prefixed bias voltage Vref.

In the Claims:

Please amend claims 1-4 as shown:

1. (Amended) A BEMF detection circuit for a voice-coil motor operative to continually generate a signal proportionally to a velocity of said voice-coil motor, the BEMF detection circuit comprising:

an algebraic summing node having an output to produce a BEMF of the voice-coil motor and having:

an input terminal coupled to receive a first voltage proportional to a voltage across the voice-coil motor;

an input terminal coupled to receive a second voltage representing a product of a first multiplier factor and a voltage proportional to a current in a coil of the voice-coil motor; and

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